Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. **(Previously Presented)** In a data communications architecture comprising one or more operatively coupled SERDES communication links having a transmitting end and a receiving end, a method to detect errors in data communications comprising:

calculating a disparity for data being communicated by one or more operatively coupled serializers in the transmitting end;

calculating a serializer data communication error code based on the calculated disparity;

communicating data from the serializers to one or more operatively coupled deserializers in the receiving end;

calculating a disparity on communicated data received by the deserializers to generate a deserializer data communication error code; and

comparing the value of the serializer data communication error code with the value of the deserializer data communication error code.

2. **(Original)** The method as recited in claim 1 further comprising determining whether the value of the serializer data communication error code equals the value of the deserializer data communication error code.

3. **(Original)** The method as recited in claim 2 wherein upon determining the serializer data communication error code value corresponds to the deserializer data communication error code value continuing data communications.

4. **(Previously Presented)** The method as recited in claim 2 wherein upon determining that the values of the serializer data communication error code and the deserializer data communication error code are not equal sending a control signal from the receiving end to the transmitting end.

5. **(Previously Presented)** The method as recited in claim 4 wherein upon receiving a control signal by the transmitting end, the serializers cooperating with a data buffer to obtain the data for re-communication to the receiving end.

6. **(Previously Presented)** The method as recited in claim 1 further comprising communicating the serializer data communications error code by the transmitting end to the receiving end.

7. **(Previously Presented)** The method as recited in claim 6 further comprising encoding the serializer data communications error code by the transmitting end to have a specified number of bits for processing by the receiving end.

8. **(Previously Presented)** The method as recited in claim 7, further comprising encoding the serializer data communications error code into a packet of data having n bits,

wherein n is a value dependent on the number of communications links employed by the transmitting end and the receiving end when performing data communications operations.

9. **(Original)** The method as recited in claim 7 further comprising encoding the serializer data communications error code into a ten bit packet.

10. **(Original)** The method as recited in claim 9 further comprising encoding a five bit error code twice to generate a ten bit packet.

11. **(Previously Presented)** A computer readable medium having computer readable instructions to instruct a computer having a communications architecture comprising one or more operatively coupled SERDES communication links having a transmitting end and a receiving end to perform a method comprising:

calculating a disparity for data being communicated by one or more operatively coupled serializers in the transmitting end;

calculating a serializer data communication error code based on the calculated disparity;

communicating data from the serializers to one or more operatively coupled deserializers in the receiving end;

calculating a disparity on communicated data received by the deserializers to generate a deserializer data communication error code; and

comparing the value of the serializer data communication error code with the value of the deserializer data communication error code.

12. **(Currently Amended)** A system to detect errant data communicated across a data communications architecture comprising one or more operatively coupled SERDES communication links having a transmitting end and a receiving end, the system comprising:

one or more operatively coupled serializers in the transmitting end for obtaining data, communicating the obtained data to the receiving end, and calculating a disparity for the data;

one or more operatively coupled deserializers in the receiving end for cooperating with the transmitting end to receive the data and the calculated disparity; and

a first error code based on the disparity calculated by the transmitting end for identifying errant data being communicated by the transmitting end to the receiving end.

13. **(Previously Presented)** The system as recited in claim 12 wherein the first error code is calculated at the transmitting end and communicated to the receiving end.

14. **(Previously Presented)** The system as recited in claim 13 wherein the first error code is communicated from the transmitting end to the receiving end over a dedicated control channel.

15. **(Previously Presented)** The system as recited in claim 12 wherein a second error code is calculated at the receiving end based on a calculated disparity calculated using values from the data communicated from the transmitting end to the receiving end.

16. **(Previously Presented)** The system as recited in claim 12 wherein the first error code is calculated and communicated by the transmitting end when communicating the data

to the receiving end and the second error code is calculated at the receiving end upon receiving the data from the transmitting end.

17. **(Previously Presented)** The system as recited in claim 16 wherein the first error code and the second error code are compared to determine if they are equal.

18. **(Previously Presented)** The system as recited in claim 17 wherein upon determining that the first error code and the second error code are not equal sending a control signal from the receiving end to the transmitting end requesting the transmitting end to resend the data.

19. **(Previously Presented)** The system as recited in claim 18 further comprising a data buffer for storing the data for communication and re-communication.

20. **(Previously Presented)** The system as recited in claim 19 wherein the data buffer stores the data encoded by the transmitting end.

21. **(Previously Presented)** A method to detect errant data being communicated across a data communications architecture comprising one or more operatively coupled SERDES communication links having a transmitting end and a receiving end, the method comprising:

obtaining packets of data for communication between two components;

calculating a disparity value for the data packets;

encoding the disparity value as an n bit error code, wherein n is a value dependent on the number of communications links employed when performing data communications operations;

communicating the data and the n bit error code from a transmitting component at the transmitting end to a receiving component at the receiving end;

re-calculating the disparity and recoding the error code at the receiving component; and

comparing the recoded error code with the encoded error code to identify a discrepancy,

wherein if a discrepancy is observed then determining that there is errant data communicated from the transmitting to the receiving component of the data communications architecture.

22. **(Original)** The method as recited in claim 21 further comprising sending a control signal from the receiving component to the transmitting component requesting the transmitting component resend the data.

23. **(Original)** The method as recited in claim 21 further comprising setting n to a value of five.

24. **(Previously Presented)** A mechanism for use in a data communications architecture comprising one or more operatively coupled SERDES communication links having a transmitting end and a receiving end so as to detect errant data bits, the mechanism comprising:

first means for calculating an error code for a block of data packets based on a calculated disparity of the bits of data;

second means for communicating the error code and block of data packets from the transmitting end to the receiving end; and

third means to recalculate the error code at the receiving end to compare the calculated and recalculated error codes.